

Surreal

Inkorporated Gamers Ko.

Design Document for:

Surreal!

Mind Blowing Art and Stunning Gameplay

“And I mean it!”™

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Written by Amanda Chaffin and Daniel Sabo

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Design History

This is a brief explanation of the history of this document. We have added this section to the document to allow us to track the changes that we have made to the document since its inception. We anticipate that, while most of the changes are going to be minor, there will be several iterations of this document before we deliver the final product.

Version 1.10

Version 1.10 includes some tuning and tweaking that I did after making my initial pass at the design. Here is what I changed.

1. Rewrite of the philosophy section
2. Integrated the Table of Content into Word format for linking purposes.
3. Refined a couple of the sections to include some more salient points in the game in a more concise fashion.

Version 2.00

Version 2.00 is the first version of the design where a major revision has been made now that much more is known about the game. After many hours of design, many decisions have been made. Most of these large design decisions are now reflected in this document.

Included in the changes are:

1. Added the details of the puzzles.
2. Added in the technical requirements for the TDD.
3. Story details.
4. World layout and design.

Version 2.10

Some more tuning and tweaking

Included in the changes are:

1. Reformatted some of the headers.
2. Redid some of the technical requirements.
3. Rewrote part of the philosophy section.

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Game Overview

Philosophy

It's nuts... it's crazy... it's it's it's..... surreal. Using crazy tools to manipulate the crazy world to get past crazy puzzles with your bat, who's crazy. Of course, that's just the game play.

Philosophical point

Surreal is a classic 2D side scroller with a modern twist, as evidenced by the surrealist art style and the ambient musical stylings of the game designers. Trust nothing. Especially not your eyes. The game is designed to run on the PC and port to the Xbox 360. On the PC, players can use an Xbox controller if they choose to do so.

Common Questions

What is the game?

2D side scroller plat former/shooter/puzzle with RPG elements.

Why create this game?

We wanted to create a game that harkened back to some classic games (Super Mario Brothers, The Legend of Zelda) but still with an innovative twist.

Where does the game take place?

In Surreality, which happens to be a bizarre world that has congealed into a plane of chaotic order.

What do I control?

You control "Dude" a stick person lost within the dimension of Surreality. You have a companion "Teh Bat" who aids you when he is not screwing everything up by ruining parts of the puzzles.

What is the main focus?

Battling through a world the programmers' subliminal minds of childhood issues brought upon by violent videogames and domineering parents and not enough pixie sticks. Besides that, the object of the game is to traverse through the game world, solving the puzzles before meeting a final boss at the end, whom you will battle for world domination.

What's different?

The art style, as evidenced by the name of the game, is surrealist, allowing us to add a Modern look and feel to a classic game style. The ambient musical stylings, with the influences of Modern music, also lend a Modern feel to the game. In addition, the player can use the game objects in the game; however, some of those game objects will not always behave as expected.

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Feature Set

General Features

2d World
Intractable game objects
Stick people
Cool sound effects

Gameplay

Shooting game objects
Shooting the gravity gun
Navigating with gravitational spheres
Dealing with “Teh Bat”
Jumping
Running
Falling
Flying with “Teh Bat”
Puzzle solving
Demolishing the enemy

Gameplay Modes

Race against the clock
Sandbox

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The Game World – R-GW

Overview

In Surreality, a world of bizarre awesomeness that has congealed into a plane of chaotic order for its own nefarious purposes. The basic world, however, is a simple 2D side scrolling world (R-GW-1) based on a tile engine (R-GW-2).

Objects

Gravitational Orbs: Dense masses of gravitation that suck the player in, allowing them to leap from one orb to another, crossing large expanses if necessary (R-GW-3). Each gravitational orb will have its own rotation (R-GW-4) so that, when the player makes contact with the orb, they will be flung off in the direction that the rotation takes them in (R-GW-5). You might end up where you want to be but, then again, you might not.

Interactive game objects: Squares, circles, triangles, water droplets, and enemies that the player can use to overcome obstacles and challenges which the player can use with tool (R-GW-6) or, later, with his/her body (R-GW-7). With the basic geometric shapes, the players can build stairs, for example, to climb up to the next level if they cannot jump high enough (R-GW-8).

Tomato: The health pack for the main character (R-GW-9). “Teh Bat” is always attracted to the tomatoes and will always leave “Dude’s” side to go for the tomato as soon as he notices the tomato in the world view (R-GW-10).

Key Locations

At specified ‘event locations’ the game will progress the storyline for the players. The gravity orbs are also key locations in the world that effect the player’s movement, as described in the Objects section. Puzzles are also key locations of where the players need to use the interactive game objects or “Teh Bat” when the player can use the gravitational gun on him There are also two caves in the game – the first is where the player collects “Teh Bat” and the second is where the player finds “Teh Bat” after he runs off after a tomato. Please refer to World Space World Puzzles section for details on the puzzles. Refer to Gravity Gun section in the Weapons section XI and the Tomato in section V.

Travel

Players can walk at a set walk speed (TBD) (R-GW-11), fly with “Teh Bat” for 2 seconds (R-GW-12), and jump at a set height of 2 tiles (R-GW-13).

Scale

7 screens of 1024 by 768 pixels (R-GW-14). Tiles are 32 by 32 pixels (R-GW-15).

Time

You have 5 min to beat the level in race against the clock mode (R-GW-16). In sandbox mode there is no time (R-GW-17).

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Game Engine

Overview

The game engine controls the main game loop for the game, the workings of the game world to include on screen (game objects, the player character, etc) and off screen programming (physics, collision, AI, etc). The game engine includes the tile engine (R-GE-1-5), world editing (R-GE-6-9), the event system (R-GE-10-15), the resource manager (R-GE-16-18), sound system (R-GE-17-19), water (R-GE-20-22), and collision detection (R-GE-23).

Tile Engine

The tile engine is an array based tile engine (R-GE-1) using 7 screens of 1024 by 768 pixels (R-GE-2). Tiles are 32 by 32 pixels (R-GE-3). The world is comprised of two tiles sets - the background image and the actual level (R-GE-4, 5).

World Editing

Maps are hand drawn with a tablet and saved in Gimp (R-GE-6). Preloaded maps in XNA made from mappy (R-GE-7). Mappy takes a graphic and converts it into tiles, allowing us to create the world with the provided tile set (R-GE-8). It also creates the underlying array structure which we can use for collision detection with the level which will be loaded from flat text files (R-GE-9).

Event System

The event system has four types of events (enumerated below) (R-GE-10) that it will fire in the game when the trigger conditions for the event are met (R-GE-11). All of the events data and trigger conditions are stored in an XML file that is loaded upon `game1.load content()` (R-XML-2). The event system also controls the current game conditions (static board evaluator) (R-GE-12) and the current game conditions triggers can be changed by any part of the engine (R-GE-13), i.e. from a collision with a game object (R-GE-13a), a time on the clock (R-GE-13b), and from other events being fired (R-GE-13c).

- **AIEvent** - Moves the AI to a preset location (R-GE-10a) or changes the AI's state in the state machine (R-GE-10b)
- **HUDEvent** – Add (R-GE-10c), remove (R-GE-10d), replace images or text on the HUD (R-GE-10e)
- **DialogueEvent** - Runs a preset dialogue with a speaker and a message for the desired amount of on screen time (R-GE-10f)
- **LevelChangeEvent** - Calls the level change for the game (R-GE-10g), which will flush the previous level's data from the system (R-GE-14) and load a new level (R-GE-15).

Resource Manager

The resource manager controls the game resources (R-GE-16) that the player or the AI can use in the game (R-GE-17). All resources in the game will be loaded XML (R-XML-3), however, we will be able to load in others via the event system (R-GE-18).

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- Squares, triangles, and circles (R-GE-16a)
- Water Droplets (R-GE-16b)
- Tomatoes (health) (R-GE-16c)

Sound System

XNA has sound capabilities built in and we will create a sound manager (R-GE-17) that will control the audio in the game to include the theme songs and any sound effects (R-GE-18,19). To see a complete list of the proposed sound effects and themes, please refer to the Musical Score and Sound Effects Section.

Water

When the player shoots the water droplets (R-GE-20) in the water puzzle, the water shall fill the pit of spikes (R-GE-21). Once the level of the water reaches the height of the player's feet, the water shall 'harden,' allowing the player to cross safely (R-GE-22).

Collision Detection

Collision (R-GE-23) will be handled in the game object parent class (R-GE-23a) which means that each object will call the parent class to determine collision. This will allow us to inherit collision into each game object to insure that all game objects react in the same manner throughout the game (R-GE-23b).

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Rendering System

Overview

2D side scroller (R-GW-1) where the viewport of the game is the size of the monitor according to the specifications on the local machine's graphics card (R-RS-1).

2D/3D Rendering

We will be using the built-in graphics rendering pipeline provided by the XNA game development platform (R-RS-2). All game objects shall use the DrawableGameComponent (R-RS-3).

Camera

A simplistic game camera with minimal functionality (R-RS-4). The camera shall be fixed to the player character (R-RS-5) and also will be centered over the character at all times (R-RS-6).

SpriteSheets

All game objects that need to draw to the screen will use the spritesheet that we will build for the game (R-GE-7). The spritesheet will contain the information needed to draw the sprite, i.e. the location of the image, the height and width of the sprite, and the count for the animations (R-GE-8). By using a single spritesheet class, draw calls in the objects themselves are vastly simplified.

Animation

The animation system in the game will consist of two main classes that all of the game objects can include in their draw calls (R-GE-9,10). A dictionary of animations will be loaded via text files and given appropriate names for calls in the code (R-GE-10a). The text files will consist of the number of frames needed for the animation, the location of the sprites to be used, the body box, and the offset, if necessary (R-GE-10b). Each game object will be responsible for handling its own animation calls to the system (R-GE-11), however, the system will handle the rest (R-GE-10c). The secondary class will implement an animation object that will house all components of an animation (R-GE-10d), and it will process requests relevant to animation loading, iterating, closing (R-GE-10e-g).

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The World Layout

Overview

A world winding though a twisted reality that pushes you away from your goal and then spirals you back to it. Traveling through the world, you almost reach your goal when a trap breaks and causes you to go in a spiral to get to the end. The world is designed to create the most surrealistic feel possible while, at the same time, pushing the player in the direction we want them to go (R-WL-1). There are 6 puzzles in the game that the player must surmount in order to get to the next section (R-WL-2).

World Map

Refer to Appendix I (R-WL-3)

World Puzzles

The seven puzzles in the game are specifically designed in order to make the player make the most of his surroundings and the game environment in order to pass to the next part (R-WL-4).

- The 'Tetris' puzzle - the player has to build a staircase using the gravitational gun, the mortar, or his body to move the blocks so that he can jump up to the next level (R-WL-5).
- 'Teh Bat' Cave – the player must locate, collect, and use the gravitational gun on 'Teh Bat' in order to fly up to the next level (R-WL-6).
- The 'Orb' puzzle – the player has to jump from orb to orb, allowing the gravity of the orb to catch him in mid-flight and the rotation of the orb to throw him in the right direction (R-WL-7).
- 'Teh Bat Oops' puzzle – while trying to be helpful, 'Teh Bat' knocks down one of the orbs the player needs to jump on, causing the player to fall down to the next level (R-WL-8).
- The Water puzzle – the player must shoot down enough water droplets to fill a hole in the ground that he can traverse it (R-WL-9).
- Second 'Orb' puzzle - (R-WL-10).
- The 'Other Bat' Cave puzzle – annoyed at Dude, 'Teh Bat' flies off into a cave and Dude must rescue 'Teh Bat' from the clutches of the other bats inside the cave (R-WL-11).
- The Final Battle – the player must defeat the Flying Spaghetti Monster in a battle to the death (R-WL-12).

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Game Characters

Player Characters

There are two characters “Dude” (R-GC-1) and “Teh Bat” (R-GC-2).

Dude is a stick figure from the Stick Figure clan. He has been chosen to find and stop the Flying Spaghetti Monster before the Flying Spaghetti Monster consumes all of the tomatoes in the land. Fortunately, Dude has the aid of his pseudo vampire bat friend, “Teh Bat” to aid him in this endeavor, an endeavor that might just cost him his life. Well, or maybe just his friendship with “Teh Bat” as the hungrier “Teh Bat” gets, the more likely he is to eat Dude.

Dude has the ability to walk (R-GC-1a), jump (R-GC-1b), and move objects around with his body, the gravitational gun, or the mortar (R-GC-1c). If the player grabs “Teh Bat” with a gravity gun, the player can fly for 2 seconds (R-GC-1d).

“Teh Bat” is a friend of Dude and who elected to go on the quest with Dude. “Teh Bat” wants to help Dude keep “Teh Bat’s” bat people supplied with tomato juice so that they will not break the treaty with the Stick People. “Teh Bat” thinks that tomatoes taste way better than Stick People blood anyway.

Enemies and Monsters

- Crawlers: wiggling spaghetti that crawls on the ground (R-GC-3).
- Bouncers: bouncing meat balls (R-GC-4).
- Vampire bats: bats that reverted to their original state and fly around seeking Stick People blood (R-GC-5).
- Flying Spaghetti Monster: the boss (PhEaR his noodly appendages) (R-GC-6).

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User Interface

Overview

The HUD shows at all times (R-UI-1), is loaded via XML (R-XML-4) to a preset resolution (1280x1024) (R-UI-2), is resized in code (R-UI-3) and is setup with a character image (R-UI-4). It also has a health bar (R-UI-5) and a timer (R-UI-6).

Character Image

An animated icon (R-UI-4a) showing the character's face and his emotional state during game play (R-UI-4b-d). If the player is doing well, the icon will reflect this as well as reflecting the fact that some of the choices might not be the best ones in the game. However, as in all things in Surreality, the icon may or may not lie to the player.

Health

A bar that shows your health percentage by decreasing the amount of tomato juice the player has (R-UI-5). This is the one thing in the game that will never lie to the player.

Timer

A countdown clock based on XNA's game time (R-UI-6). Oh, ok, so there are two things that will not lie.

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Weapons

Overview

The weapons are the gravity gun (R-W-1) and the mortar (R-W-2).

The Gravity Gun

The gravity gun will allow the player to pick up game objects (R-W-1a), enemies (R-W-1b), and “Teh Bat” (R-W-1c). Right click on the mouse or left trigger on the controller will fire the weapon in the direction the player indicated (R-W-1d). If the player uses the gun on the game objects, the player will be allowed to move the object to his/her chosen destination (R-W-1e). If the player picks up an enemy, he/she can throw the enemy away from his/her position (R-W-1f). If the player selects “Teh Bat,” he/she will be granted the ability to fly to a preset location with “Teh Bat” (R-W-1g).

The Mortar

The player can use the mortar as a normal projectile weapon in video games (R-W-2a). Left click on the mouse or right trigger on the controller will fire the weapon in the direction the player indicated. The projectiles will cause game objects to fall from preset locations (R-W-2b) and also deal damage to all enemies in the game (R-W-2c).

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Musical Scores and Sound Effects

Overview

The game will have two basic types of sound, the musical score playing as background music (R-MS-1) and sound effects (R-MS-2) that are fired based upon the player's (R-MS-2a), the enemies' (R-MS-2b), "Teh Bat's" actions (R-MS-2c), or randomly (R-MS-2d). Designed to enhance the feeling of the world as well as to help immerse the player into the game, the music is in the Ambient genre (R-MS-6) and soothes the player into the direction we want them to go. You might want to not trust some of the sound effects, however, as they can lead you astray.

Background Theme

Heartbeat.wav (R-MS-3) – drawing inspiration from Final Fantasy VIII's *Battle of Dollet* theme, we will use the same intro (with heartbeats instead of base drums) and go for a lighter feel to the rest of the piece. It will be created with a Modern Ambient feel to it while still giving a nod to one of the greatest musical masterminds in the video gaming industry.

Sound Effects List

The bat noises: (R-MS-4)

- wings flapping: something subtle and not too annoying
- bat squeaking noise
- shaking noise... character can grab and shake the bat
- a bat "Yo" sound... kind of like Navi from Zelda but instead of saying "hey hey hey" the bat says yo.

Player: (R-MS-5)

- running noise
- jumping noise
- landing noise
- shoot gravity gun/grabber
- shoot projectiles
- projectiles explode
- picking up item

Objects: (R-MS-6)

- falling
- landing
- splash
- gravity noise

Enemies: (R-MS-7)

- bouncing noise
- dying noise
- walking noise
- another flapping noise.. preferable a little different from the original flapping noise

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Single-Player Game

Overview

The player wanders through the world of Surreality, solving puzzles and challenges while fending off the enemies that swoop down from above or attack from below.

Single Player Game Play

The gameplay is a myriad conglomeration of elements consisting of the player using the game objects to get from point a to point b and to solve the puzzles in between. Players can walk, jump, and move objects around with their body, the gravitational gun, or the mortar. Gravitational orbs can be used to cross vast expanses of terrain. "Teh Bat" can also help the player fly from one point to another but not necessarily to the point that the player actually wants to go.

Story

Once upon a time, in a land not yet named, the vampire bat clan used to suck only the freshest and most vitamin enriched stick people blood, however, after a great long war, a treaty was signed that allowed the stick people to live in harmony (and not death) with the vampire bat clan in the most wondrous land of Surreality. Henceforth, the vampire bats would be referred to as pseudo vampire bats and the pseudo vampire bats would only consume the vibrant and yummy (and some of them liked it way better anyway) blood of the tomatoes.

Present day Surreality, where tomatoes are the nectar of life, has been overrun by the Flying Spaghetti Monster. The Flying Spaghetti Monster is assimilating the world's tomatoes supply, decimating the nearby pseudo-vampire bat population. Thus, the pseudo vampire bats, in order not to break the treaty but to still maintain their very existence, began to dine upon the stick men once more.

You (Dude) must SAVE your people from the ravages of the not so pseudo vampire bats and your own life...oh, and your bat...is there anything else? Can we add something here? Ok cool. Go forth and conquer the Flying Spaghetti Monster, oh chosen one.

Hours of Gameplay

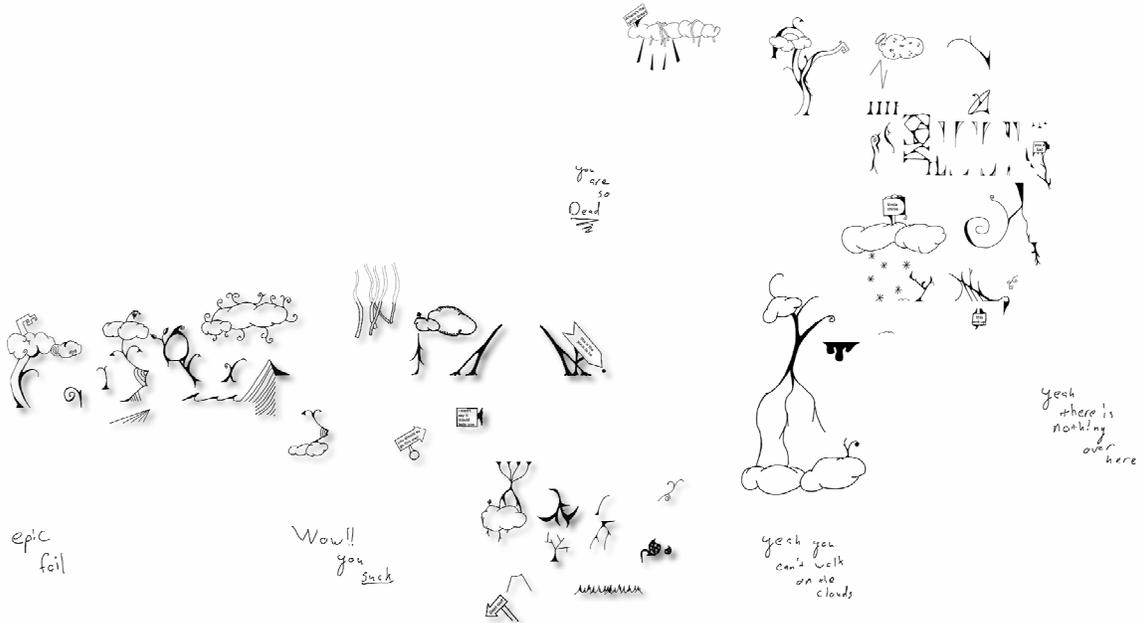
The first level should take 5 minutes to beat (R-SPG-1).

Victory Conditions

Beat the boss (R-SPG-2), the Flying Spaghetti Monster, and get to the end of the level within 5 minutes or less (R-SPG-3). Defeat all puzzles (R-SPG-4).

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Appendix I – World Layout



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Thank you for reading